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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,023	06/27/2001	Frank O'Mahony	884.405US1	3406

7590 06/29/2004
Schwegman, Lundberg, Woessner & Kluth, P.A.
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EXAMINER

SEFER, AHMED N

ART UNIT PAPER NUMBER

2826

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/893,023

Applicant(s)

O'MAHONY ET AL.

Examiner

A. Sefer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 13-18 and 26-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-18, 26, 29, 30 and 34-47 is/are allowed.
- 6) ☒ Claim(s) 27, 28 and 31-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on March 24, 2004 has been entered and new claims 46 and 47 have been added.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 27, 28 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. ("Lee") USPN 6,144,224 in view of Chi (IEEE transactions on computers, VOL. 43, NO. 5, May 1994)/Chi USPN 5,387,885 (" '885 ").

Lee discloses (see figs. 2-5 and abstract) a microelectronic die comprising a clock signal source 49 to provide a clock signal; and a clock signal distribution network to distribute the clock signal to multiple clocked elements within the microelectronic die, the clock signal distribution network including a number of on-die interconnect sections having first 44a and second 44b differential signal lines on a first metal A/B layer of the microelectronic die, the first and second differential signal lines being substantially parallel to one another; and a number of conductive links 41a/41b, wherein a first conductive link of the number of conductive links couples the first differential signal line of a first one of the interconnect sections to the first differential signal line of the second one of the interconnect sections and a second conductive link of the number of conductive links couples the second differential signal line of the first one of the

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interconnect sections to the second differential signal line of the second one of the interconnect sections, but does not specifically disclose using salphasic clocking techniques.

Chi discloses (see abstract) the advantages of salphasic clocking techniques.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate Chi's teachings with Lee's device, since that would substantially reduce clock skews as taught by Chi. It would have been obvious to incorporate the teachings of '885 with Lee's device, since that would minimize phase shifts.

As for claim 28, Lee discloses a microelectronic die including a microprocessor circuitry 45.

As for claims 31-33, Lee disclose a number of traces 41a/41b including signal lines (as in claim 33) on metal layer A/B being capacitively coupled to and non parallel or substantially orthogonal (as in claim 32) with said first and second differential signal lines.

Allowable Subject Matter

4. Claims 13-18, 26, 29, 30 and 34-47 are allowed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wood USPN 6,556,089 discloses an electronic circuitry concerning timing signals.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Sefer whose telephone number is (571) 272-1921.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ANS
June 24, 2004



NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
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